SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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MONEY MAKING—No. III.

The drag, or more correctly speaking the adjusting room, is the next department of the Mint to which we have to direct the attention of our readers, and in order to make the operations performed therein more completely intelligible it may be well to describe its mechanical arrangements. As in the rolling-room, a line of subterranean shafting in this case communicates motion to the various machines. The flatting-mill is the first of these brought into action after the arrival of the golden fillets. It consists of two light cast-iron frames, bolted to iron girders spanning the shaft tunnel below. These frames support in bearings two steel rolls 4 in. in diameter, 5 in. long in the barrel, and placed horizontally one above the other. Motion is communicated to the rolls by means of straps, whilst fine pitched gearing causes them to run in reverse directions. They are fixed at a convenient height of about 2½ ft. from the floor, and an iron rest, for carrying the fillets with which they are to be fed, projects from the front of the mill to a distance of 18 in. The upper roll, instead of being cylindrical, as the lower one is, has three flat sides running longitudinally along its barrel.

The purpose of the flatting-mill is simply to prepare the ends of the fillets for the next machine—the draw-bench. This it does by receiving the strips of gold or silver in succession, and singly, from the hands of an attendant. The operator in this case simply advances, over the rest, one of the strips to the rolls. He passes it into the mill at the instant that one of the flat surfaces of the upper roll is passing over the lower one, and the strip, after receiving a severe pinch, is again rejected by the action of the machine. The result is a thinning down of the end of the fillet to half its original thickness, and to the extent of about 1½ in. of its length. Of course, a whole batch of fillets undergo this operation in rapid succession, and thus they are made ready for the draw-bench, to which, indeed, it is really a mechanical provider. The draw-bench itself has many of the characteristics of a wire-drawing machine, and there is little doubt that its inventor, Sir John Barton, borrowed the idea of its construction from that implement. It consists of four long narrow cast-iron frames, bolted together, and supported on legs firmly bolted to the stone walls of the tunnel beneath. Over each of these frames is passed an endless pitched chain, formed of gun-metal, and of which the links, so to speak, are 6 in. long. The chains are made to travel at a slow rate of speed, by means of underground gearing. The "heads" of the quadruple draw-bench stand a foot above the frames and the upper links of the chains, and are surmounted by small horizontal toothed wheels, vertical adjusting screws, and indices. Each of the "heads" of the draw-bench is contrived for the reception of a pair of highly-polished steel cylinders, 4 in. long and ¾ in. diameter. The cylinders are not intended, however, to revolve; they are on the contrary fitted into beds, which form continuous supports for them, and prevent effectually any tendency to springing. One cylinder is placed immediately above the other in each head, and the adjusting screws before mentioned permit of an exact regulation of the distance between the cylinders. Such are the general principles of this appliance, and the cylinders are to it precisely what the dies are to the wire-drawing machine.

Allowing, now, that the batch of golden strips, with their ends duly squeezed by the flatting-mill, are advanced to this mechanical adjuster of their final thickness, the attendant passes the thinned end of one of them between a pair of cylinders. It projects slightly beyond them on the other side, and within reach, therefore, of a dog, as it is termed, and which certainly has a mouth, provided with very sharp steel teeth. The dog is a travelling carriage mounted on wheels, and its tail, if the term be allowable, is so formed as to be capable of being attached readily to the link joints of the endless chain. Supposing that the end of the fillet has been seized by the "dog's" teeth, and its tail connected with the slowly moving chain, it will be easily understood that the golden strip will be forcibly drawn between the polished surfaces of the steel cylinders. By this process it will be reduced slightly in thickness, lengthened somewhat, and made of equal dimensions throughout. It will be comprehended that in a coinage of gold especially it is of the highest importance that something very nearly approaching to uniformity of weight should be effected. The law does not, in fact, permit of a greater deviation in weight between individual sovereigns newly coined than half a grain. That is to say, a remedy or latitude is allowed of a quarter of a grain on either side of the true standard weight; this being the case, it will be seen that a very close approximation to perfect equality of thickness is absolutely necessary in the fillets from which gold coins are to be made.

The draw-bench is supposed to be the best instrument for arriving at this extreme of nicety, but many mechanical men, and among them the writer of this series of papers, believe that accurately constructed rolling-mills, supplied with steel rolls, would quite as well effect the object. It is not intended, however, to discuss that question here, our object being merely to instruct our readers in the literal art of money making as it is practised at Her Majesty's Mint.

After the fillets have passed the ordeal of the draw-bench they are tested, or "tryed," as the technical term is. This consists in their being perforated at intervals throughout their lengths by a punch fixed to a hand-press, and of the exact diameter of a sovereign. The resulting blanks or discs are weighed in a small balance, and the tryer thus ascertains whether the fillets are of the precise thickness to yield blanks within the legal remedy. If the latter in any case prove too heavy, the fact is clear that the fillet is too thick, and it must be returned to the draw-bench for further reduction. If too light the fillet from which they are obtained is said to be "killed," and nothing remains but to bury it in the melting crucible, and to exhume it in the form of a bar. Constant practice has enabled the Mint workmen to avoid this fatal contingency, except in rare instances, and those arising rather from the varying density of the precious metals than imperfect manipulation.

The accepted fillets are next cut into short and handy lengths of about 20 in. The thinned ends are also cut off for remelting by means of a small pair of vibrating shears, worked by an eccentric and lever below, and then they (the fillets) are transferred to the cutting-press room.

This apartment at the Mint is of circular form; it is lofty, light, well-proportioned, and admirably adapted for its purpose. The machinery in it consists of twelve cutting-out presses, arranged conveniently above an iron platform, around which as many boys sit feeding the presses with fillets. In the centre of this select circle a vertical shaft, surmounted by a horizontal fly-wheel, and driven by gearing at its base, revolves. Twelve cams are bolted below the arms of the fly-wheel, and these as they pass round raise alternately, by striking against their levers, the vertical screws and punches of the presses. Vacuum pumps cause the punches to descend the instant that they are released by the revolving cams, and in their descent they force out blanks from the fillets. At the rate of sixty per minute each press accomplishes this work, provided the youthful feeders are careful in supplying them regularly with material. Each boy has complete power over the movements of the press he attends, and so long as he keeps his foot on a starting pedal near to the three-legged stool upon which he sits, so long will his press continue its motion; the removal of his foot causes it to stop.

The dreadful clatter produced by the cutting-presses is their worst feature, and probably some scheme for lessening it will be one day adopted. The blank pieces of metal—embryo sovereigns—fall into boxes or drawers, recessed snugly into the press platform, and they are from time to time removed, and tested by weighing, in order to assure the operators that no wearing of the punch has interferred with the exactitude of their dimensions and weight.

At the close of a day's working a general balancing up takes place. The good blanks are deposited in bags, in batches of 720 ozs., for advancement to the next stage. The perforated fillets are bound up in bundles, for retransmission to the "burning fiery furnace." The debris, waste ends, scrap, cuttings, and everything that has a semblance of gold in its composition is gathered up with jealous care; and if on careful comparison with the weight given out for working in the morning the evening's results agree, the workmen receive a ticket of leave to pass the outer gates, and the precious freight is safely locked up in the stronghold until the following day.

That day arrived, an officer from the weighing-room attends to receive the blanks from the stronghold. The melter receives his "scissell," as the scrap gold is termed, and the operations we have described, those of melting, rolling, adjusting, and cutting out are again gone through. It is for us to accompany the blanks to the weighing-room, with its series of beautiful automaton, and almost sentient, balances for testing each individual piece of gold, but as a description of this apartment, its fitments, and its processes will occupy more space than can this week be spared for the purpose, that description must be deferred until the appearance of our next.

FOREIGN MINING AND METALLURGY.

The continental metal markets do not present much animation. The quotations for copper at Havre are reported as follows:—Chilian and Peruvian, in bars, 83*l.* to 83*l.* 5*s.*; Peruvian mineral (pure standard), 87*l.*; United States (Baltimore), 96*l.* to 97*l.*; Lake Superior, 98*l.* to 100*l.*; Mexican and Plata, in bars, 80*l.* to 82*l.*; Russian, 104*l.* to 108*l.*; old yellow copper, 50*l.* to 57*l.* 4*s.*; red ditto, 84*l.* 8*s.* to 85*l.* 4*s.* per ton. At Paris, English in plates has brought 90*l.*; tough cake, 90*l.*; Lake Superior, 102*l.*; Chilian, 100*l.*; Corocoro mineral, 88*l.*; red rolled, 85*l.*; and yellow ditto, 90*l.* per ton. Tin has been in little demand, and has fallen on the Dutch market; transactions have been much reduced, and to effect sales holders would be obliged to sell at 76 fls., a quotation which they have refused to accept. At the close of April the situation of the Banca tin trade at Amsterdam was as follows:—

	1863.	1862.	1861.
Stock, March 31 .....Ingots	44,090	36,066	41,454
Deliveries in April	4,638	6,766	9,188
Stock, April 30	39,452	29,300	32,266

The stock of the Society of Commerce for the approaching sale is estimated at 101,325 ingots, as compared with 139,884 ingots at the corresponding period of 1862, and 136,554 ingots at the corresponding period of 1861. At Paris, Banca has made 134*l.* 12*s.*; Detroit, 130*l.*; and English, 120*l.* per ton. At Havre, the quotation for Banca has ranged from 130*l.* to 132*l.*; Detroit, 128*l.*; Peruvian, 100*l.* to 114*l.*; and Peruvian mineral, 84*l.* As regards lead, Spanish sammons have been quoted at Paris at 22*l.* 8*s.*; French, 22*l.* to 22*l.* 8*s.*; and Belgian, 22*l.*; while rolled has brought 25*l.* 4*s.* per ton. At Havre, the quotation for Spanish has been 20*l.* 8*s.* per ton. Rough Silesian zinc has been quoted at 19*l.* 4*s.* per ton at Paris, and rolled, 22*l.* to 22*l.* 16*s.* At Havre, the last quotation for zinc has been 18*l.* to 18*l.* 2*s.* per ton.

MINERAL INDUSTRY OF PRUSSIA.

Prussian industry is about to enter on a new phase. The treaties of commerce concluded by the Government of Berlin with several countries will profoundly modify all the economy of the tariffs levied on the entry of foreign products. The policy of protection is about to give way in favour of a liberal reform, and it is confidently expected that German industry, under the new conditions on which it is entering, will continue to expand. It is interesting, then, to take a review of the position of metallurgy in Prussia as it stood towards the close of the old system—that is, at the end of 1861. The total value of Prussian metallurgical products in 1861 was 10,064,328*l.*, an increase upon the production of 1860, which was valued at 9,647,175*l.*, but still considerably below the production of 1858, which attained an aggregate value of 12,009,929*l.* In 1858, however, Prussian industry acquired an exaggerated extension, which did not bear a due proportion to the requirements of consumption. The production of pig and cast-iron in 1861 was divided over the various provinces as follows:—

Province.	Blast Furnaces. In blast.	Out of blast.	Total production. Tons.	Per furnace. Tons.
Silesia	96	42	108,432	1129
Posen	1	1	325	325
Prussia	1	—	18	18
Pomerania	—	1	—	—
Brandenburg	1	3	182	182
Saxony	6	6	4,263	710
Westphalia	44	16	103,874	2360
Rhenish	83	34	230,058	2772
Hohenzollern	2	1	2,186	1093
Total in 1861	234	104	449,338	1920
Total in 1860	258	80	395,740	1534

Of the total production of Silesia, 96,233 tons were pig and 12,199 tons works in cast-iron; of Posen, 6 tons pig and 319 tons works in cast-iron; of Prussia, 6 tons were pig and 12 tons works in cast-iron; of Brandenburg, the whole consisted of works in cast-iron; of Saxony, 1870 tons were pig and 2393 tons works in cast-iron; of Westphalia, 99,759 tons were pig and 4115 tons works in cast-iron; of the Rhenish province, 220,427 tons were pig and 9631 tons works in cast-iron; and of Hohenzollern, 1823 tons were pig and 363 tons works in cast-iron. Only three Prussian provinces have an important production; in the first rank stands the Rhenish province, where blast-furnaces have, during the last few years, risen as by enchantment. Everything favours the manufacture of iron in this last district—rich and abundant minerals, cheap combustibles, and moderate transport charges, the mineral workings being situated in the neighbourhood of collieries. Although a comparison of 1861 with 1860 shows that the number of blast-furnaces lighted fell in 1861 from 258 to 234, the production was materially increased. This result was obtained by augmenting the power of the blast-furnaces, which was a very necessary proceeding, as even in 1861 they only delivered on an average 1920 tons each per annum or about 6 tons per day. In Prussia, as in other parts of Europe, the fabrication of iron with coke is being substituted for old-fashioned metallurgical operations conducted with wood. Thus the production of pig in 1861 exhibited the following comparative results as against 1860:—

Province.	Coke-made. Tons	Wood-made.	Wood & coke mxd.
Silesia	64,063	40,291	4,078
Westphalia	60,341	18,524	25,009
Rhenish	194,243	7,124	23,691
Other provinces	—	6,874	100
Total in 1861	318,647	72,813	57,878
Total in 1860	277,998	96,829	20,913

The comparison of the two years shows with what rapidity the fabrication of iron with wood is disappearing; it contributed 25 per cent. of the total production of 1860, but its proportion was only 15 per cent. in 1861. As a general rule, the blast-furnaces have effected further progress in their operations, and the cost price of pig made with coke fell in 1861 to 6*s.* 8*d.* to 7*s.* 4*d.* per ton, as compared with 8*s.* to 8*s.* 8*d.* per ton in 1860. The consumption of pig in Prussia, in 1861, may be calculated approximately as follows:—Works of pig of first fusion, 29,218 tons; for the fabrication of 88,028 tons of works with second fusion (after allowing 10 per cent. for waste), 97,812 tons; for the fabrication of 345,427 tons of iron in bars, plates, and wire, calculating the use of pig at 135 per 100, 466,326 tons; for the fabrication of 29,448 tons of rough and cast-steel, calculating the use of pig at 100 for 75 of steel, 42,069 tons; making a total of 635,425 tons. The total production in 1861 having been 449,338 tons, there was a difference of 186,087 tons between the production and the consumption, as compared with a corresponding total of 183,406 tons for 1860. The total of the importations of pig and old iron into the Zollverein, *viâ* the Prussian frontiers, was made up as follows in 1861:—North Sea—Scotch pig, Hamburg, 22,386 tons; Bremen, 2923 tons; Leer, 2370 tons; other ports, 1176 tons. Baltic—Scotch pig, Stettin, 19,426 tons; Kœnigsberg, 3972 tons; Dantzig, 1653 tons; other ports, 874 tons. By the other frontiers—various pig, 44,602 tons. In all, 99,382 tons. The prices of all kinds of metallurgical products have for some years been much depreciated in Prussia; in 1861 they ranged on the Cologne market as follows:—Iron in bars, ordinary and rails, 9*l.* 5*s.* 6*d.* to 9*l.* 17*s.* 6*d.* per ton; Scotch pig, No. 1, 4*l.* 6*s.* 6*d.* to 4*l.* 12*s.* 9*d.* per ton; casting pig of the district, 4*l.* 0*s.* 9*d.* to 4*l.* 6*s.* 6*d.* per ton; refined pig of the district, 3*l.* 17*s.* 6*d.* to 4*l.* 4*s.* per ton; wood-produced pig of the district, 4*l.* 16*s.* to 5*l.* 8*s.* per ton; steel pig of the district, 6*l.* 5*s.* 6*d.* to 6*l.* 12*s.* per ton. There is not a very great difference between the price of Prussian pig and of good Belgian pig, even in the centre of production; in fact, the difference is scarcely larger than the expenses attending the carriage of a ton of pig from Charleroi to Cologne. German siderurgy may, then, pass from protective duties, and await with confidence the effects of the new treaties of commerce concluded by the Zollverein. The production of worked pig and iron in Prussia in 1861 was as follows:—

Province.	Worked pig. First fusion.	Second fusion.	Iron-plates and wire.
Silesia ..... Tons	12,199	14,488	61,998
Posen	325	448	487
Prussia	11	4,044	6,538
Pomerania	—	4,109	2,897
Brandenburg	182	15,909	10,442
Saxony	2,393	3,819	1,791
Westphalia	4,115	15,671	117,595
Rhenish	9,630	29,486	139,387
Hohenzollern	363	54	1,292
Total in 1861	29,218	88,028	343,427
Total in 1860	25,362	76,675	324,772

The numerous applications which cast-steel finds in railway plant, the construction of ships, and artillery, give to the manufacture of this product an importance, which must attract attention to the progress which this industry has made in Prussia. The general totals of the production of steel in 1861 were—

Province.	Rough steel.	Cast-steel.	Refined steel.
Westphalia ..... Tons	13,539	5,150	2,828
Rhenish	4,786	5,015	999
Other provinces	627	331	471
Total in 1861	18,952	10,496	4,298
Total in 1860	14,600	6,504	3,308

Prussia had, at the close of 1861, twelve establishments for the fabrication of cast-steel, employing 3326 workmen, and they produced, in 1861, as the preceding table indicates, 10,496 tons, of the value of 421,530*l.* As compared with 1860, the production, it will be observed, was nearly doubled in 1861. The great Krupp establishment at Essen, in the regency of Dusseldorf, alone occupied 2138 workmen, and produced 5000 tons of cast-steel (against 4000 tons in 1860), the value of which was estimated at 225,000*l.* The works of the Bochum Company delivered 4000 tons in 1861, against 1200 tons in 1860, and employed 950 persons. The other principal establishments are, three works at Witten, belonging to Harkort and Sons, Berger and Co., and F. Lohman; the Carlswerk works in the regency of Potsdam, and the Borsig works at Moabit, near Berlin. Iron minerals are spread very abundantly over the whole Prussian territory, and are of all kinds and qualities, from "prairie" minerals, cheap but yielding but poor returns, to the rich minerals of the Siegen district, of which steel pig is made. The proportions in which each district contributes to the general production of minerals are as follows—

District.	Mines.	Minerals raised.	Value.
Breslau	98	.... Tons 232,908	£13,297
Halle	26	14,818	2,957
Dortmund	65	294,052	66,663
Bonn	948	456,672	146,238
Total	1137	998,450	£259,155

The minerals of the Breslau district averaged a fraction over 3*s.* 10*d.* per ton; of the Halle district, 4*s.* 2*d.* per ton; of the Dortmund district, a fraction over 4*s.* 10*d.* per ton; and of the Bonn district, 6*s.* 8*d.* per ton; showing a general average of 5*s.* 5*d.* per ton. No precise calculation can be given as to the exact strength of the various descriptions of minerals; but, speaking in round numbers, the average return is estimated at 33 per cent., or about one-third. By way of summing up, we may group together the estimated value of the production of every class of iron and steel in 1861, as compared with 1860:—

Product.	1861.	1860.
Pig, in bars	£1,784,845	£1,552,246
,, steel	48,646	28,084
,, worked, first and second fusion	1,215,019	1,062,834
Iron, in bars	2,847,691	2,888,084
Plates	509,847	574,950
Iron wire	309,170	352,977
Total	£6,715,218	£6,459,175

The value per ton of pig in bars thus averaged 4*l.* 6*s.* 5*d.* per ton in 1861, against 4*l.* 4*s.* 10*d.* per ton in 1860; of steel pig, 6*l.* 7*s.* 4*d.* per ton in 1861, against 6*l.* 9*s.* 7*d.* per ton in 1860; of worked pig, first and second fusion, 10*l.* 7*s.* 2*d.* per ton in 1861, against 10*l.* 8*s.* per ton in 1860; of iron in bars, 9*l.* 18*s.* 5*d.* per ton in 1861, against 10*l.* 16*s.* 10*s.* per ton in 1860; of plates, 13*l.* 10*s.* 5*d.* per ton in 1861, against 15*l.* 9*s.* 7*d.* per ton in 1860; and of iron wire, 14*l.* 12*s.* 10*d.* per ton in 1861 against 16*l.* 0*s.* 10*d.* per ton in 1860. The most striking feature presented by this comparison is the reduction in 1861 in the price of iron in bars and plates. The present value of bars, about 10*l.* per ton, will probably fall still further, in consequence of reforms in the Customs tariff of the Zollverein. Prussian metallurgy appears, however, to be strengthened instead of weakened by foreign competition, which acts as a spur, obliging industrials to march more rapidly than perhaps they otherwise would in the path of progress. Zinc metallurgy has undergone a complete transformation in Prussia during the last few years; and it is not very difficult to perceive the causes of this change. For a long time the fabrication of this metal was a monopoly enjoyed by some works of Belgium and Silesia, calamine minerals being formerly only worked on a great scale in the neighbourhood of Liége and Breslau. But other bearings were discovered in succession in Sweden and then in the Asturias, and the production largely increased, while the consumption did not follow a proportionate development. A fall naturally happened, then, in the sale prices, but the reduction did not arise immediately in consequence of the number of works elaborating the metal not having increased. The Vieille-Montagne, Corphalie, Nouvelle-Montagne, and Silesian establishments were the only works which delivered metallic zinc to the public; they formed among themselves an association which maintained the sale prices; the new bearings which were discovered were immediately purchased by one or other of these powerful companies, and the monopoly still continued to exist. But the brilliant results obtained by the establishments making zinc stimulating the zeal of engineers, exploratory works were undertaken on all sides, and at the end of a short time so numerous were the mines discovered, that it became impossible for the old companies to appropriate them. A system of unrestricted competition then came into complete effect. Works were erected in Silesia, another establishment was brought into operation in Asturia (Royal Asturian Company), and others are now in construction in Spain by the Santander Company. England, again, which had no zinc works, and was, as regards zinc, a complete tributary to the Continent, sought to introduce into its territory the fabrication of this metal, and an establishment was founded at Swansea to treat minerals brought from the Asturias. The result of this extension of production, and this competition between different countries, was a considerable fall in the price of zinc, which has receded from 26*l.* per ton in 1858 to about 18*l.* per ton in 1863. The production of rough zinc in Prussia, which had amounted to 55,346 tons in 1860, rose in 1861, notwithstanding unfavourable prices, to 58,658 tons; but, on the other hand, the value of the production fell from 963,554*l.* in 1860, to 944,855*l.* in 1861. On the Cologne market the price of rough zinc ranged in 1861 from 17*l.* 4*s.*, to 18*l.* 8*s.* per ton; the price of rolled zinc varied from 20*l.* 16*s.* to 24*l.* per ton. The zinc works of Prussia delivered in 1861 the following quantities:—Province of Silesia—the Silesian Company, 8846 tons; Count Henkel, of Semianowitz, 7695 tons; the Countess Schaffgotsch, 6222 tons; the heirs of Herr Von Giesche, 5546 tons; Madame de Thiele-Winkler, 4564 tons; the Councillor of Kramta, 1840 tons; the Count de Ballestrem, 1392 tons; the Hydognia State Works, at Konigshutte, 1170 tons; the Councillor of Lobbecke, 1064 tons; and various small producers, 2568 tons,—in all, 40,906 tons, of an aggregate value of 835,256*l.* Province of Westphalia—The establishment of the Stolberg Company, near Dortmund, of the

Westphalian Mining Company, at Grane, near Iserlohn, and of the Vieille-Montagne Company, at Berge-Borbecke and Mulheim, 10,744 tons, of an aggregate value of 185,774*l.* Province of the Rhine—Establishment of the Stolberg Company, at Munsterbusch, 3511 tons; establishment of the Eschweiler Company, at Birkengang, 3505 tons,—in all, 7016 tons, of an aggregate value of 121,054*l.* The entire production of rough zinc in Prussia was thus raised to the previously indicated total of 58,668 tons, of the combined value of 1,142,184*l.* The production of rolled zinc in Prussia, in 1861, amounted to 12,114 tons, of the value of 248,833*l.*, as compared with 13,905 tons, of the value of 325,109*l.* in 1860; thus, while the production decreased about 13 per cent., the value of the products obtained declined 23 per cent. In connection with the production of zinc in Prussia, it is important to add the total quantity of minerals extracted, and the following table shows that the minerals treated are almost exclusively calamines, of which very rich bearings exist in the regency of Oppeln:—

Regencies.	Mines.	Calamines.	Blende.	Value.
Oppeln	25	.... Tons 283,467	Tons —	£151,467
Dusseldorf	2	—	236	353
Arnsberg	15	11,342	8,241	21,952
Cologne	21	—	16,649	24,919
Coblentz	16	—	2,737	4,083
Aix-la-Chapelle	5	115	5,874	11,859
Total in 1861..	83	294,944	33,737	£214,613
Total in 1860..	50	273,019	50,576	233,973

The average price of the Oppeln minerals was thus 11s. 1d. per ton; of the Dusseldorf, 1*l.* 11s. per ton; of the Arnsberg, 1*l.* 3s. 3d. per ton; of the Cologne, 1*l.* 11s. 2d. per ton; of the Coblentz, 1*l.* 8s. 4d. per ton; and of the Aix-la-Chapelle, 1*l.* 19s. 9d. per ton. These figures show a general average of 13s. 6d. per ton for 1861, as compared with 14s. 9d. per ton in 1860. In the number of mines indicated for 1860, mines of lead, and others furnishing simultaneously zinc minerals, are not included. We must reserve to a future occasion a notice of the position of lead, copper, coal, &c., mining in Prussia.

The casual allusions made, however, in the foregoing details to the Vieille-Montagne reminds us that the report of that famous enterprise for the year 1862-3 has just come to hand. The Council of Administration announces that the rough profits realised by the company in 1862 amounted to 149,708*l.*, and that the distribution among the shareholders will be, as in 1861, at the rate of 16s. per share. Such a result obtained in the midst of very general depression shows, the Council observes, "the strength of the company, the vitality of its industry, and, we dare to add, the perseverance of our efforts." The sum realised from the sale of products has seriously fallen off, but, on the other hand, reductions have been effected in the cost price; to the commercial difficulties of the times the Council has opposed, as a set off, economies in all branches of their service; and in the very crisis caused by the American convulsion some compensation is found in the very advantageous terms on which stores, and especially supplies of coal, have been obtained. The Council hopes that the price of zinc will improve, but at the same time it establishes its estimates of receipts and expenditure on the hypothesis that quotations will not yet experience any amelioration. Should better times come, and should the price of zinc be enhanced by a general revival of business, the company will be the first to profit by the change. The Council states that the financial position of the company is good; that its current and term engagements are much below its disposable resources; that its stocks of manufactured products have been estimated at moderate prices; that its zinc mines are well managed, and that its works have been organised for a large production at a cheap rate. The financial results obtainable from all this are subordinate, however, to the sale prices current for the metal produced, and in this regard political events inflict fatal injury on the company's enterprise. Experience has shown the administration that it can always secure purchasers in all the European and Transatlantic markets by regulating the disposal of the company's products by sale prices in harmony with the general position of zinc industry. As regards prices, the depreciation indicated in the report for 1861 did not go further in 1862, and prices may be said to have remained stationary. The commercial compensation for the low rates current for zinc is found in the development of industrial applications of the metal, which has been turned to account in a manner which could not have been attempted with the high tariff current in 1857 and 1858. With respect to the mines of the company, the administration has sought less during the past year to develope their production beyond the importance which it had previously acquired than to maintain them on a regular and constant footing of production. Thus care has been taken to carry on concurrently with the daily working preparatory works of exploration and inspection, which assure the future. In the Belgian and Prussian concessions, as in some of the new possessions acquired on the right bank of the Rhine, important works of this kind have been carried on, and have already been crowned with success. In the principal mine of Moresnet the installation of a lower seat of working has not yet been entirely completed, but it is being regularly carried on. The shafts and machinery for effecting the extraction and drainage are completed and installed; but a gallery, which will become the principal artery of the working at the level of 90 metres, remains to be pierced, and the execution of this work will absorb about 15 months more. The Welkenraedt Mine, in Belgium, has acquired a new importance through discoveries recently made; and this mine, which has been worked for more than 15 years, is considered susceptible of new developments. The mines which the company possesses on the right bank of the Rhine are being worked with regularity, and form in the Bensberg district, as in that of Oberberg, a fine series of concessions, which assure a great number of workings capable of being developed in succession, in proportion as the wants of the undertaking expand. During 1862 these three groups of mines in the neutral territory, in Belgium, and in Prussia, yielded, a general production of 55,742 tons of rough minerals, suitable for metallurgical treatment or sale, being a total slightly in excess of that for the preceding exercise. Nevertheless, the purchases made by the company of foreign minerals, in 1862, were slightly in excess of the corresponding transactions concluded in 1861, the total quantity of rough or calcined minerals acquired from abroad having been 27,867 tons last year. Other aspects of this important undertaking must be noticed in a future impression.

NATIONAL PROVINCIAL BANK OF ENGLAND.

The thirtieth annual meeting of shareholders was held at the head office, Bishopsgate, on Thursday,—Mr. JOHN MINET LAURIE in the chair.

The CHAIRMAN said he believed his first duty was to request Mr. Alexander Robertson to read the notice convening the meeting.

The notice convening the meeting having been read,

The CHAIRMAN said: However satisfactory may be our anticipations of the report we meet here to consider this day, I am sure there is no one present who does not deeply regret that our proceedings have not been opened by our old and valued friend, Mr. D. Robertson, in whom we have, indeed, lost a most valuable servant. I will say now, in his absence, what his modesty would not have permitted me to say if he had been present. Mr. Robertson is no ordinary man—he is, as we all had an opportunity of knowing, a first-rate banker; but we should be doing but scant justice to his great qualities if we limited the extent of his capabilities to a single field. In diplomacy, in literature, in law, and in command, Mr. Robertson would, if circumstances had permitted, have been, I am confident, equally eminent, for he had singular talent in handling the most delicate affairs. His judgment was wonderfully cool and accurate, always going at once to the real issue of the question. His diction was terse and simple, never omitting a word from its right place, nor admitting an unnecessary sentence; indeed, his reports and correspondence are real models of that kind of writing, and indicate to what superiority he might have aspired had he attempted composition in a more ornamental style. He had a great genius for command—he inspired equally among his official superiors and inferiors an unlimited confidence. He excelled in the power of organisation. The skill with which he disciplined our large staff of officials entitles him to all praise—a task which was, indeed, of no ordinary difficulty, for it was necessary to bring a large body of men, many of them of very eminent ability, animated with that spirit of independence which characterises our countrymen—(cheers)—to act on one common system—a system requiring great energy and activity, but in which a superfluity of zeal should be repressed almost as sternly as a neglect of duty. (Hear, hear.) Mr. Robertson was always most attentive to the interests of his subordinates. He knew their individual capabilities intimately, and he cordially assisted your directors in carrying out those schemes of life assurance and retiring allowances which have contributed so much to the comfort of your officers and to the interest of your bank. For, notwithstanding the many new banking projects which have sprung up of late, and, of course, the prospect of promotion must have been tempting, so identified have your officials felt themselves with the establishment they serve, that few indeed—and I believe I may say none whose loss we could regret—have been induced to leave your service. (Hear, hear.) Gentlemen, few of us have the good luck of being original shareholders: even when I joined the board, some 18 years ago, these things were matters of tradition. There is no doubt that many rocks had to be avoided ere the ship could be fairly launched into the deep water. Mr. Robertson was well supported by the proprietors and directors, but his labours and anxieties were great. We all know that success attended the undertaking, and we have shared the great and constantly-increasing prospects of these latter years. But now, when all cause for anxiety had disappeared, and nothing remained to him but to watch over and develope the ever-growing importance of our institution, in which he took so lively a part, in the midst of all this public well-being domestic misfortune began to fall heavily upon the head of Mr. Robertson. Disease swept off one by one an affectionate and promising family, and, at last, he stood alone. Then his health gave way—his medical advisers pronounced absence from London indispensable, and compelled him to communicate to your directors that he must retire from that post to which he for nearly thirty years had devoted all his energies. Most willingly would we have persuaded him to continue with us, but the medical advice could not be over-ruled, and, most reluctantly, we were obliged to accept his resignation. I am sure, gentlemen, that you will approve of our having dealt liberally with one to whom we felt we owed so much, and I trust the steps we took to meet this emergency may equally receive your concurrence. Our first object was to make the change which had become inevitable as little felt as might be in the administration of your affairs. It was, of course, impossible to expect that Mr. Robertson could undertake any post which might entail on him the performance of any duties incompatible with the great object of restoring his health; but we thought a great point would be gained if we could place him in a situation in which we could, without any feeling of difficulty, advise with him. The Deed of Constitution afforded us the power of electing him an honorary director. We have not hesitated to exercise it, and he has consented to accept the office. We should, therefore, in the event of any emergency, have the benefit of his valuable advice. In respect to the office of general manager, I am, of course, aware of all the objections which may be urged against a joint management, but the circumstances of the case are so peculiar that I feel very great confidence that the plan which we have adopted will obtain your full sanction, as it has the approbation of the directors. The business of this establishment naturally divides itself into two branches—town and country, the chief accountant, Mr. A. Robertson, being at the head of one, and the chief inspector, Mr. Atkinson, at the head of the other. Now, the two gentlemen filling these two offices are so admirably fitted for their duties, and are so well acquainted with their respective departments, that we felt we could not do better than bring them into direct connection with ourselves. We knew, besides, that such were their feelings towards each other, such the goodness of their temper, that we should run no risk of those heart-burnings and jealousies which, of course, are the great objections to such an arrangement; nor have our expectations been disappointed. The new system works most harmoniously, and I think I may say, without hesitation, that you need have no fears as to the result of the experiment. And now, gentlemen, to the matters which form more expressly the subject of our report. Allow me to congratulate you upon the entire success of the scheme proposed to you last year for the increase of your capital. That measure had for its objects the extension of the area of the constituency of the bank; last year the number of shareholders was 1125, at present it is 1390, thus increasing its influence in the country, to provide a capital adequate to any possible emergency, and incidentally to procure, through the premium on the new shares issued, an ample building fund. Of the large sum thus accruing we have devoted, in the first place, a considerable amount to the re-adjustment of our general building fund. We were anxious that our accounts should be entirely clear, and our building property now stands in our books at what we, on the best authority, believe their actual market value. The dilapidated condition of our present premises has long engaged our attention. The accommodation is quite insufficient for the present, and much less for the future, requirements of our business. And we intend to employ another portion towards the erection of an edifice which shall not only afford amply room for our present establishment, but which may be large enough to meet any wants which we may reasonably contemplate in the future. In conclusion, allow me to assure you that our affairs never looked more prosperous. (Hear, hear.) In the country we continue to enjoy the unbounded confidence of the public, and I trust, when you have heard our annual financial statement, you will think we have not neglected the important interests which you have entrusted to our care. (Loud cheers.) For the satisfaction of our customers, I may state that our paid-up capital amounts to 838,296*l.*, and our reserve fund to 203,311*l.* These, I consider, most important facts. (Hear, hear.) I will now read the report of the directors:—

The directors have the pleasure to submit to the proprietors the thirtieth annual report for the year ending Dec. 31 last. The year 1862 was ushered in by distress and stagnation in the manufacturing districts, consequent on the diminished supply of cotton, arising from the contest between the Northern and Southern States of America; the thereby greatly-reduced production in that important branch of manufacture stimulated the activity of other departments of trade, and was accompanied by an extended continental demand, which, however, very inadequately filled up the vacuum that had been created. The supply of capital thereby released led to great redundancy in the money market. The value of money which in the early part of the year was 3 per cent. fell by successive stages to 2 per cent., at which it remained for upwards of three months, and only recovered to 3 per cent. by the end of October. Under these circumstances it will hardly be expected that the financial statement should prove so favourable as in the preceding year, when money was twice the value. The result of the year's operations is as follows:—

1862. Jan. 1.—Rest, or undivided profits, at Dec. 31, 1861, as exhibited at annual meeting, in May, 1862	£185,415	3 7
Less bonus declared and paid in cash in 1862, out of this amount	50,400	0 0
Reserve fund set apart in Government securities	£135,015	3 7
Dec. 31.—Nett profits of 1862, after making allowance for bad and doubtful debts, and paying a bonus of 10 per cent. to officers	127,685	16 9
Making	£262,701	0 4
Add undivided profits carried forward from 1861	20,000	0 0
Total	£282,701	0 0
Deduct dividend on company's stock, paid June, 1862..	£28,800 0 0	
" ditto Dec., 1862, paid Jan., 1863	31,165 18 4	
" bonus of 5 per cent., ditto	36,000 0 0	
" undivided profits carried to next half-year	4,971 0 10=	100,936 19 2
Leaving	£181,764	1 2
Out of these profits the directors propose to declare, in addition to the foregoing dividend and bonus paid to proprietors as above stated, a further bonus of 6 per cent., making the division of profits in 1862, in all 19 per cent. upon the paid-up capital, free of income tax, amounting to	46,748	17 7
Leaving reserve as before, at	£135,015	3 7

In reference to the proposal contained in the last report for the increase of the capital of the bank by an issue of 30,000 new shares of 20*l.* each, the directors are happy to report that the scheme has been entirely successful; 29,574 shares have been taken up by the proprietors, on which a first instalment of 2*l.* per share was paid in July last, amounting to 59,148*l.*, and a premium of 4*l.* per share realised, amounting to 118,296*l.*

The directors looking to the great and progressive character of the business of the company, have had under their consideration the necessity of increased accomodation in London, and an opportunity having occurred of purchasing the Flower Pot Tavern and adjoining premises in front of the present building, a valuable acquisition to the bank's property was secured, materially enhancing its marketable value beyond the original cost. The directors have accordingly determined to erect on the present site such a building as may be adequate to the wants of the bank for many years to come. Temporary offices have been secured during the re-building of the bank in the adjoining premises belonging to the Oriental Bank. To provide adequately for the new building, it is proposed to transfer 25,000*l.* from premium account realised from the new shares to the present building fund of 31,752*l.* 12s., making that amount 56,752*l.* 12s. The directors have at the same time had a careful survey and valuation made of the bank's freehold and leasehold premises in the country, and find that from the inevitable outlay incurred from time to time in alterations and repairs, as well as from depreciations, it is desirable, in order to preserve the property at its true value in the company's books, to transfer a further sum of 25,000*l.* from premium account for that purpose. After making provision for these two objects there will remain 68,296*l.* at the credit of premium account, which they recommend should be carried to the reserve fund of 135,015*l.* 3s. 7d., which will then stand at 203,311*l.* 3s. 7d. To meet the requirments of certain districts, agencies at Brixham, in Devonshire, and Aberayron, in Wales, have been opened, since last meeting, with encouraging prospects of remunerative results.

The directors have to announce, with much regret, the retirement—after nearly 30 years incessant devotion to the interests of the bank—of Mr. Daniel Robertson, the general manager, in consequence of his impared health necessitating greater repose. In acquiescing in Mr. Robertson's wishes to be released from his laborious duties, the directors have endeavoured to recognised and requite his long and valuable services by awarding him a liberal retiring allowance, and have unanimously invited him to offer himself as a candidate for a seat at the board on the first vacancy, with a view hereafter (should his health be restored) to have the benefit of his banking knowledge and experience as one of its members. In the meantime, in virtue of their powers, they have elected him an honorary director.

The directors have further to inform you that Mr. Daniel Robertson has been succeded by Mr. Alexander Robertson, chief accountant, and Mr. Edward Atkinson, chief inspector of branches, who have acted as joint-general managers from March 31 last. Both these gentlemen are old and experienced officers of the bank, and have greatly distinguished themselves in the departments with which they have hitherto been specially connected. The following directors go out of office by rotation, but being eligible for re-election offer themselves accordingly:—Sir James Sibbald David Scott, Bart., Richard Blaney Wade, Esq., and Charles Heaton Ellis, Esq.

He (the Chairman) concluded by moving that the report be received and adopted.

Mr. J. O. HANSON had much pleasure in seconding the proposition, and in doing so, to add his sincere congragulations to those of their excellent Chairman upon the very successful result of the operations of the National Provincial Bank during the past year.

The motion was put, and carried with acclamation.

The CHAIRMAN said it now became his duty to inform the proprietors that a vacancy had occurred in the direction by the retirement of Sir James Sibbald David Scott, Bart., and Messrs. R. Blaney and C. H. Ellis, who went out of office by rotation.—They were unanimously re-elected.

Sir J. B. D. SCOTT, Bart., said, on behalf of Mr. Wade, Mr. Ellis, and himself, he had to return their united thanks for having replaced them upon the direction. He regretted that upon the present occasion he stood up alone, but Mr. Wade was unavoidably absent on business, and Mr. Ellis had been detained at his residence by indisposition. He thought he need not assure the proprietors that those upon whose behalf he was now speaking would continue to give their best attention to discharge the duties pertaining to their position, because the interests of the board, all of whom were large shareholders, were inseparably connected with the best interests of the bank. He would take this opportunity of remarking that he believed regularity in the attendance of directors at the board meetings had characterised that establishment from its formation. No director ever thought of leaving until every item of business was disposed of. The careful selection, and the admirable training of the efficient staff, facilitated the various operations. The board had the greatest reliance on the staff, or otherwise they would not occupy their position; but at the same time there was no over-weaning confidence. One element of this bank was that each department should operate as a check upon the other, but he did not believe anything occurred which did not come under the immediate cognisance of the directors. (Hear, hear.) Therefore, "blow high, blow cold," the directors could never be charged with an ignorance of the state of affairs. He would point to the balance-sheet, and to the gradual and satisfactory progress of this bank, to know whether he was not justified in having stated these facts. (Hear, hear.) Of course, they could not all be equally talented, but each had his specialities, which were employed in the promotion of the best interests of the National Provincial Bank of England.

Capt. REILEY said that while they, as proprietors, had good reason to congratulate each other upon the increasingly-prosperous position of the bank, yet they must not forget that they were greatly indebted for that position to the great industry and ability of the directors. There could not be a divided opinion that the directors had done everything in their power to promote the best interests of the bank, and the accounts showed that their endeavours had been attended with the greatest success. Under those circumstances, he hoped his brother proprietors would accord to the directors upon the present occasion some substantial acknowledgement for the services rendered. He thought they would all agree with him in believing that the prosperity of the bank was almost entirely due to the directors. The prosperity of their institution commenced some years ago, and the property had increased year by year, till the proprietors now received an unprecedented dividend. (Hear, hear.) The National Provincial Bank now stood second to none in this city, and he believed out of doors it bore the highest reputation. The proprietors had rewarded their officers, and properly rewarded them, and had given them gratuities, but nothing had been done for the directors. It was time they had received a remuneration, but their daily attendance at the bank fully entitled them, he thought, to something more upon the present occasion than a mere vote of thanks. It appeared to him that an admirable opportunity presented itself—of the new shares created last year, there were some which were the property of trustees, and others which were not taken up. From those causes there remained 426 unappropriated shares, which divided among the proprietors would be inconsiderable. He wished to propose a resolution, that the directors should be requested to accept those shares, subject only to the payment of calls, and not to the payment of the premium which they bore upon issue. (Hear, hear.) He then proposed a resolution to that effect.

Mr. HARRISON had great pleasure in seconding the proposal, the more especially because it embraced a mode of remuneration without in any way affecting any individual proprietor. He could not but congratulate the directors upon the increase of the capital, and the mode by which it had been effected. He thought proprietors might regard that as one of the most sagacious measures ever adopted; it was far-seeing, while at the same time it gave a considerably increased strength, and made the bank equal to any that existed. That measure was the greatest security to everyone of them; the number of proprietors had increased from 1100 to 1390, consequently, should even a call become necessary, they had 1390 instead of 1100 proprietors to call upon. It was a bold measure, because the directors relied upon the proprietors taking up this large addition of capital with an onerous premium. Therefore, if the directors had not seen their way clearly—if they had not felt the greatest reliance upon the continued prosperity of the bank—they never would have resorted to such a scheme. (Hear, hear.) He thought it was one of the most wise measures that any bank could possibly adopt.

The resolution was put and carried unanimously.

The CHAIRMAN, on the part of his colleagues and himself, might say he was almost overwhelmed by the high mark of confidence which the proprietors had just accorded. As the hon. proprietor, who kindly proposed the resolution, said the meeting had on previous occasions offered the board its thanks in words, and which he (the Chairman) could assure the proprietors were, indeed, highly valued by the directors, and upon the present occasion if only those thanks had been accorded they would not have been less valued. But at the same time the directors fully appreciate this great mark of the proprietors munificence, and assured them that the directors would still continue to discharge—as it had ever been their endeavour—their duties to the best of their ability, and in an honest, upright, independent, and fearless manner. (Hear, hear.) They always sat in council upon all applications as an independent jury, and had never been swayed by favour or private influence. They urged one strong point in the management of that bank—that things should remain as they are. He could only once more in the name of his colleagues and himself, return their most sincere and cordial thanks for the substantial compliment just passed. He could not sit down without mentioning one thing—and in doing so he was carrying out the wishes of his colleagues,—he referred to the fact of how much they were indebted to their most excellent and efficient staff. In the few observations he made at the commencement of the meeting, he alluded to this subject, and he was sure he could not say too much on their behalf. (Hear, hear.) He was perfectly certain if the exertions of the directors had been so successful as the proprietors seemed to say they had been, if the directors deserved the proprietors' approbation, if they deserved the substantial meed of praise just presented, that such success could not have been achieved had it not been for the active body of public servants which Mr. D. Robertson had succeeded in collecting around him. (Hear, hear.)

The proceedings then terminated.

Meetings of Mining Companies.

THE DEVONSHIRE GREAT CONSOLIDATED COPPER MINING COMPANY.

At the nineteenth annual general meeting of shareholders, held at the offices of the company, Gresham House, Old Broad-street, on Tuesday, Mr. W. A. THOMAS in the chair,

The following report of the directors was read:—

It is the privilege of the directors of the Devonshire Great Consolidated Copper Mining Company to present to the shareholders the nineteenth annual balance-sheet, which they presume cannot be otherwise than satisfactory to all parties concerned. The increase of dividends, the splendid discoveries in the mines, and the relative diminution of expenditure, are substantial matters for congratulation, and render this one of the most successful years of the company's operations. The quantity of ore sold has exceeded that of last year by nearly 3767 tons, and the amount of money realised for the ore has been 16,409*l.* 3s. 11d. over that of the previous year; whilst the general expenditure, calculated in reference to each ton of ore raised, has been 2s. 6½d. per ton less. The charge for timber and iron is only a trifle in excess of last year, but the quantity of ground opened in the mines, and the general activity in every department, have reduced the stock to an extent which has compelled the directors to open large contracts for those articles, especially for timber. The Tamar fishery continues to be a failure, but every means that can be devised for purifying the mineralised water before entering the Tamar have been put in operation, and met with the approbation and commendation of the Tamar Fisheries Parliamentary Commissioners. It is to be hoped that when the mines bounding the lower part of the river shall have been compelled to adopt similar measures, the restoration of the fishery will be accomplished.

In order to provide against accidents or delay, a second locomotive has been purchased of Messrs. Gilkes, Wilson, and Co., of Middlesbro', the first one having proved itself to be an admirable and effective engine in all respects.

The directors have felt it their duty to become subscribers to some of the charitable institutions in the neighbourhood, and have expended 184*l.* 13s., the particulars of the distribution of which are laid on the table. The school on the mines continues to be well attended by nearly 100 children, and is carefully conducted.

The only drawback to this favourable statement is the low standard for copper, the adverse operation of which is apparent when the quantity of fine copper in the ore is taken as a basis of calculation. The quantity of fine copper in the ores sold amounted to 1456 tons 9 cwts. 1 qr., and the price per ton of metal this year was 82*l.* 6s. 1d. as against 88*l.* 11s. 6d. last year, being a difference of 6*l.* 5s. 5d. per ton less than the year previous; which, if it had been obtained, would have enabled the directors to have enabled the directors to have declared dividends exceeding by 9000*l.* the amount actually paid—5,296*l.* The cash balance in hand appears larger than that of last year, which is explained by the fact of the Jan. cost not having been remitted on March 2.

The directors have much pleasure in referring to the local agent's report of the mines, which will be found peculiarly interesting in several particulars, especially in reference to the precipitation of the copper contained in the mineralised water, and the utilisation of the damaged scrap-iron, a great portion of which is otherwise worthless.

The directors cannot conclude this report without acknowledging the services of Capt. Jas. Richards, and all the other agents of the mine, who show their zeal for the company's interest by cheerfully undertaking the most arduous duties if required, by constantly suggesting improvements for the more economical working the concern, and by maintaining the respectability of a well-ordered establishment.

Account of income and expenditure of the Devonshire Great Consolidated Copper Mining Company, from March 1, 1862, to March 2, 1863:—

INCOME.

Balance from last account			£ 18,963 7 5
Carriage of ores outstanding per last account, since received			133 4 10
Sales of copper ore sampled from Jan. to Dec., 1862, both months inclusive—24,622 tons 5 cwts. 3 qrs. realising with carriage	£119,872 9 1		
Deduct outstanding March 2, 1863	1,392 19 6=		118,479 9 7
Mundic sold			873 7 9
Fees on transfers of shares			12 17 0
Interest on money lent			134 6 0
Interest on Exchequer Bills			152 15 7
Landlord's property tax, deducted from dues on ores			359 15 3
Total			£139,109 3 5

EXPENDITURE.

Mines' cost from Feb. to Dec., 1862, both months inclusive			£ 42,396 0 2
Timber imported			3,001 19 2
Iron purchased			224 6 3
Locomotive steam-engine			1,000 0 0
Water rent, one year, to September 29, 1862			433 2 6
Tamar fishery, one year, to September 29, 1862			48 2 6
Rates and taxes at Tavistock			1,348 13 2
Income and property tax, three quarters, to Dec. 20, 1862			2,267 5 0
Dues on copper ores sold, from January to December, 1862			9,593 13 3
Grant for the education of the miners' children, and other charities at Tavistock			184 13 0
Compensation to resident director, one year, to Dec. 31, 1862			600 0 0
Office expenses in London			706 7 0
Compensation voted to directors and auditors, May 14, 1862			442 0 0
Dividends paid, 54*l.* per share, on 1024 shares			55,296 0 0
Balance—Cash at bankers	£ 1,031 4 8		
Cash and stamps in office	35 8 11		
Cash at Tavistock	200 0 0		
Money at interest on call	11,500 0 0		
Bills receivable	8,800 7 10=		21,567 1 5
Total			£139,109 3 5

Balance-sheet of the Devonshire Great Consolidated Copper Mining Company, from March 1, 1862, to March 2, 1863:—

CAPITAL AND LIABILITIES.

Shareholders' capital, 1024 shares, at 1*l.* per share	£ 1,024 0 0
Mines' cost for Jan. and Feb., 1863, including merchants' bills	8,271 4 6
Dues on copper ores sold Jan., Feb., and March, 1863	2,408 15 10
Income tax, poor rate, and other taxes, to March 20, 1863	949 17 5
Water rent and fishery, to March 25, 1863	240 17 6
Salaries, rent of office, &c.	325 0 0
Balance carried down	98,778 18 8
Total	£111,998 13 11

PROPERTY AND ASSETS.

	Surface.*	Underground.	
Wheal Maria	£ 6,552 2 5	£ 233 0 0=	£ 6,785 2 5
Wheal Fanny	1,146 12 9	288 0 0=	1,434 12 9
Wheal Anna Maria	7,857 9 8	2,585 0 0=	10,442 9 8
Wheal Josiah	12,873 5 4	2,917 10 0=	15,970 15 4
Wheal Emma	4,947 2 4	2,038 0 0=	6,985 2 4
Wheal Thomas	227 16 0	245 6 0=	473 2 0
South Lode	787 15 0	155 16 0=	943 11 0
Wheal Frementor			4 0 0
Railway			8,096 0 0
Total			£50,954 15 6
In store at the mines:—			
Iron, steel, brass, coal, powder, rope, nails, copper, candles, oil, &c			4,939 7 0
Copper ores raised in January, and sold Feb. 19, 1863	£ 9,383 9 10		
Copper ores raised in February, sold March 19, 1863	10,375 8 9=		19,758 18 7
Ores and halvans at surface, less dues			4,917 4 0
House at Abbotsfield, near Tavistock			3,300 0 0
Office furniture in London			72 0 0
Copper ores sold, and carriage, outstanding, March 2, 1863, per Part 1			1,392 19 6
Exchequer bills in hand, £5000, market value March 2, 1863			5,096 7 4
Balance per Part 1			21,567 1 5
Total			£111,998 13 11
Balance brought down			98,778 18 8

* Steam-engines, water-wheels, timber, iron, coals, and other machinery and materials.

Extracts from Capt. James Richards's report were read. The stock of ore in reserve in the mines amounts to 71,698 tons, being 5918 tons in excess of the quantity last year.

Resolutions were passed receiving the report and accounts, and re-electing the directors and auditors; and, after voting thanks to the Chairman and directors for their attention to the affairs of the company, the meeting separated.

SOUTH CONDURROW MINING COMPANY.

A general meeting of shareholders was held at the company's offices, Broad-street-buildings, on Wednesday,—Mr. WESTON in the chair.

Mr. DUNSFORD (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed.

A statement of accounts was submitted, ending with costs for April, which showed a debit balance of 613*l.* 5s. 10d.

The report of the agents was read, as follows:—

May 9.—We continue to drive the deep adit east and west of cross-cut, on West Basset lode. In the western end we have driven a great many fathoms, through a strong kindly lode. In the eastern end we have met with the cross-course, which has disordered the lode for the present. About 50 fms. west of the proposed engine-shaft we have cleared a long range of old workings in killas formation, from which we believe ancient miners must have raised pretty much tin; but in our opinion the lode will make copper as it gets down in the granite, and from the dip of the granite as seen in the adit we shall have 30 fms. to sink to intersect it. We have arranged with Mr. Thompson to give up a part of the north ground, which is to be granted to the Condurrow adventurers; but it will in no way affect us, as all our north lodes are underlying south. Mr. Thompson is willing to give a new lease for 21 years, immediately the old one is surrendered, and we shall have to take a lease for Lady Grenville's land also. The season is now well on for the removal of the engine, &c., and we hope that you will soon be giving us directions to do so.—J. VIVIAN, W. THOMAS, W. RICHARDS.

The SECRETARY said it was proposed to surrender the present lease (which had but three or four years to run), with a view of obtaining a new one. In this new lease it was proposed to alter the present northern boundary of the sett, by ceding a portion to the Condurrow adventurers, who, he was glad to see, were represented upon the present occasion by Mr. Grylls. He (the secretary) might mention that the ground which, under the new lease, would belong to Condurrow, could not be of any practical use to the South Condurrow adventurers; but in return for this cession, the South Condurrow sett would have an important extension westward.

Mr. GRYLLS said that the present South Condurrow boundary was a nominal one, at

a distance of about 80 fathoms south of Condurrow adit. As the explorations had been extended to within about 10 fathoms of the boundary, the Condurrow adventurers, naturally enough, became very anxious to know the conditions upon which they could follow that lode. Consequently he applied to Mr. Thompson for a new lease, to contain a clause giving them the right to follow the lode in depth. Mr. Thompson replied that he could not do that until the lease had expired, because there was a concurrent lease which was terminable at a corresponding period. In the meantime an application was made by the South Condurrow adventurers for a renewal of their lease. He (Mr. Grylls) then renewed his request, and again asking for a clause in the new lease giving the Condurrow adventurers permission to follow the lode in depth. Whereupon Mr. Thompson stated that must be done, because it would be for the interest of the lords; for if the Condurrow adventurers did not return any ore from that portion of the sett, it would never be returned. But Capt. J. Vivian thought some difficulty might arise from such an arrangement, as the lodes might come together, and proposed to diminish the limit marked out. He suggested that the Condurrow adventurers should take their 70 fathoms from the present boundary instead of so many fathoms from the adit, and that the boundary should be a fixed line on the surface. He (Mr. Grylls) might mention that South Condurrow had put out a cross-cut directly through this ground, but nothing was seen; so that in ceding it to the Condurrow adventurers the South Condurrow adventurers would not be giving up anything of mineral value, so far as their explorations were concerned. The Condurrow shaft was down within 3 fathoms of the 200 from the adit, and the lode was dipping away south; so that the ground could not for many years be of any service to the South Condurrow adventurers. He might further mention that the extension of ground which would be gained by South Condurrow would be a direct line on the West Basset.

Mr. HUME said it appeared that South Condurrow would be giving up that which was of no real value, while they obtained as a compensation ground that might prove of great value, being on the course of the West Basset lode.

The CHAIRMAN, in answer to a question, stated that the balance against the mine would be liquidated by a call of 2s. per share.

The SECRETARY said the arrears of call had been credited in the accounts.

The report and accounts were received and adopted, and a call of 2s. per share made.

Upon the proposition of Mr. GRYLLS, seconded by Mr. HUME, a resolution was passed instructing the secretary to file a petition in the Stannaries Court against shareholders in arrear of calls.

The secretary was authorised to surrender the present lease of the company, and apply for a new one upon the terms stated in Mr. Thomson's letter.

Mr. GRYLLS had not a shadow of a doubt but that the sett had the West Basset lode, and the moment the company began to work vigorously upon that lode the property would become of value. He referred to the part upon which they were now preparing to erect the engine.

The CHAIRMAN said he had never heard a divided opinion as to their property proving extremely valuable when sufficiently developed.

A vote of thanks to the Chairman terminated the proceedings.

BRYN GWIOG MINING COMPANY.

A general meeting of shareholders was held at the company's offices, Broad-street-buildings, on Tuesday,—

Mr. RICHARD HALLETT in the chair.

Mr. DUNSFORD (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed.

A statement of accounts for the three months, ending March, was submitted, which showed a credit balance of 337*l.* 0s. 2d.

The following report was then read:—

May 9.—The engine-shaft is down about 6 fathoms below the 85; the lode is large, and will produce about 15 cwts. of lead per fathom. The stopes in the run, east and west of the shaft, below the 75, will average about 1 ton per fathom, and will, I think, improve, particularly the eastern one, which is looking better than for some time past. The 75 west is within 13 fms. to the workings of the old mine, and will unwater the whole of that portion of the property; this level has been driven for the last 12 fathoms in a lode that will average at least 1 ton per fm., whilst the present forebreast is equal to 1½ ton per fathom. The lode there is very large, and we are cross-cutting it, but have no north or south wall yet; at present we can work but one stope behind this level, which is let at 4*l.* 10s. per ton, but we shall put on another as soon as we have ascertained the width of the lode, and its value on both sides of the level. This piece of ground will, no doubt, produce a large quantity of lead. In the bottom of the old workings we set a pitch at 6*l.* per ton; this has considerably improved in the last few days, and is now worth 1¼ to 2 tons per fathom for lead ore. The 75 looking so well, together with the present prospects in these old workings, make us believe there will be a long and valuable piece of lead ground between these two points. In the upper part of the mine there is nothing at present requiring any particular remark; we have some pitches working at 7*l.* per ton, and driving the 50 west to get into the old mine before next winter, so as to take up the surface water to that level. The most recent change in the mine is connected with the 75 west, where the character of the ground is altered, and more consonant with the productive rock of the district, being mixed with yellow clay, spar, &c., in which the lead is found, and which is precisely similar to the Hendra and other rich mines of the district; also the ore ground is much longer than in the upper levels. We hope soon to meet with a similar change in the engine-shaft, which is already undergoing a change for the better, and will, no doubt, more than compensate for the falling off in the produce of the run east and west of the shaft, under the 75, and which accounts for the lessened sales of the last quarter. We shall sell this month 45 tons of good lead ore, and we hope to improve the sales in the coming quarter rather than otherwise. The mine looks more promising than for some time past, and we look forward to the 85 laying open a good and lasting mine.—F. EVANS.

The SECRETARY then read a letter written by Capt. J. Evans, and dated May 11. It stated that he (Capt. Evans) had much pleasure in informing the shareholders that the lode in the shaft was looking better—a little lead coming in on the north side. The leader part of the lode had also improved to 2 feet wide, with a mixture throughout of lead, blende, and spar. The 75 fm. level west also looked better, especially the upper part of the level, where there is half-a-yard wide of lead ore. In the cross-cut driving south there are lumps of lead in clay, &c. He hardly knew what to make of this, but by Wednesday next he trusted to be able to say more about it. There is something very promising about it.

The CHAIRMAN moved that the report and accounts be received and adopted.

Mr. BARNEWELL enquired if it were intended to drive a level at the 85?

Mr. W. MICHELL replied that a favourable change of ground had for some time been expected in the shaft; and it appeared from the letter just read that the change had taken place. As soon as it was found that the shaft had really reached the soft ground, levels would be driven each way.

The SECRETARY said that the hard ground in the shaft had prevented for some time the operations producing a profit. If they were able to drive in such ground as they had in the 75 large profits would soon be realised. Up to the present time there had been dead ends, the ore being found by rising and winzing. He might mention that in the soft ground, which the shaft now appeared to be approaching, immense deposits of ore had been discovered.

Mr. MICHELL, in answer to a question, stated that they believed the old workings did not extend more than 3 or 4 fms. below the 66 fm. level: therefore, the 75 fathom level would be below the old workings.

Mr. SEAWARD had understood a pitch had been set in the old workings.

Mr. MICHELL said that a winze was being sunk in those workings, where there was a very good course of ore.

The SECRETARY said, in January it was calculated that the operations of the quarter would show a profit of about 500*l.*; but the expenditure of erection and purchase of a new boiler was not reckoned, which had been charged in the statement just submitted. As the mine was now looking so much brighter he thought they might put up a crusher.

Mr. BARNEWELL enquired whether it would not be better to make a call?—The CHAIRMAN did not think that would be necessary, seeing the mine was looking so much better.

A SHAREHOLDER enquired what quantity of ore had been sold since the last meeting?

The SECRETARY replied that 130 tons had been sold, which had realised 1858*l.* If shareholders watched the reports they would be able to accurately calculate the quantity of ore that would be sold.—The report and accounts were then received and adopted.

The committee of management were re-elected, when a vote of thanks to the Chairman was passed, which terminated the proceedings.

LONG RAKE MINING COMPANY.

A general meeting of shareholders was held at the company's offices, Broad-street-buildings, on Tuesday,—Mr. RICHARD HALLETT in the chair.

Mr. DUNSFORD (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed.

A statement of accounts for the quarter, ending with March cost, showed a debit balance of 573*l.* 18s. 10d.

The report of the agent was as follows:—

May 9.—The 70 east is opening good stoping ground, and we are pressing eastward as fast as we possibly can. The stopes in the back of this and the 70 west produce about 8 cwts. per fm. The 60 west is without any particular change. There is a shoot of ore before this level, which we hope to cut into ere long, as there is a masterly lode gone down below the 48. We think this will throw some light on this part of the mine, and will probably induce us to drive deeper levels in this direction; for the present I wait to see what discoveries are made in this level first, as to all appearance just now the eastern part of the mine is the most important. The 60 east is not now driving; those parties are rising behind this end against Middle shaft. The rise will at present produce 1 to 2 tons per fm., and is cutting out good ore ground for stopes. Further west we have another stope, worth from 10 to 15 cwts. per fm., and has improved the last few days. Our shaftmen lately have been employed in repairing the shaft, sending down and fixing new rods for break of underlie, together with the plunger for the 70, cutting ground, &c., which is not yet completed. Seeing the importance of carrying our 60 and 70 eastward with dispatch, we thought it more consistent with the interest of the company to put the shaftmen to sink Middle shaft from the 48. There are about 4 fms. more to hole, after which we shall resume driving the 60 east, and also be able to put on other stopes, which we cannot do now, on account of the ventilation. It will also enable us to work the best portion of the mine much more cheaply. It is also necessary to bring down this shaft for the sake of the 70, which is steadily advancing towards it, and in back of which there are now upwards of 20 fms. of stoping ground laid open; and further east, under where Middle shaft will come down, we expect a more improved state of things. We shall neither neglect the sinking of the engine-shaft, as soon as circumstances will admit, unless you wish to increase the number of men, which our present means for drawing will scarcely allow. The repairing of the shaft during the past month has hindered us a good deal in drawing, and, in consequence, we shall not sell more than 15 tons of lead in the coming week, but we think to do considerably better as soon as we have two shafts to draw through, and the steam-engine, which is now on the mine and being erected, is complete for that purpose, as we must generally draw a large quantity of stuff every month. It will also enable us to work the mine much faster than hitherto. Looking at what the mine is likely to do in the future, I consider we have far more stoping ground laid open and not taken away than we have had at any time since the mine commenced, which as soon as the plunger is fixed, Middle shaft brought down, and engine erected, will be taken advantage of, and will, I believe, result in bringing about larger sales of ore. I consider a few months more will see this mine in a much more improved state than it is at present, as the ore ground is improving as we go eastward, and it is in this part where we expect a good and lasting mine.—Pwll Melyn: The late floods or, at least, the rain which we had some time ago completely filled the workings, and nothing has been done since by tributers in this part of the property.—F. EVANS.

Mr. W. C. VIVIAN said he visited the mine some seven weeks since, when he was informed the sinking of the engine-shaft would be resumed in a short time. He (Mr. Vivian) regarded that as a point of the most vital importance, and more especially as the lode was improving at the time the sinking of the engine-shaft was discontinued.

The SECRETARY said it had been thought better to put the shaftmen to the Middle shaft, and sink that from the 48, so as to communicate, and resume the sinking of the engine-shaft as soon as that was done.

Mr. W. C. VIVIAN was of opinion that the most important point should be prosecuted with the greatest vigour.

The SECRETARY said that the sinking of the Middle shaft was one of the most important points, as all the information they had been able to obtain in the district induced them to believe that the ground eastward was of a very much better character than in any other part of the mine.

Mr. MICHELL said it was found that in rising against the shaft the ground was looking very much better.

Mr. VIVIAN was very much pleased with the general appearance of the ground. From the range of workings on the back of the lode there could be no doubt that an immense quantity of lead had been extracted. Those old workings extended eastward; and he firmly believed that by exploring under those old works large ridges of lead will be found.

The SECRETARY had always urged the communication of the Middle shaft, because when communicated they would be able to extend eastward with great dispatch, and draw the stuff from the two shafts cheaper than from one.

Mr. MICHELL, in answer to a question, stated that the Middle shaft was 90 fms. from the engine-shaft. To the east of the account-house an excellent shaft had been sunk by the old workers. This shaft could be presently used for the purposes of ventilation, which would enable them to extend the operations eastward for a considerable distance.

Mr. VIVIAN said communicating with the old shaft was a point of importance. It seemed to him quite possible that the productive ground would be found to follow the direction of the surface. If such should prove to be the case the productive ground would be about the present depth of the engine-shaft—that was his reason for urging resuming the sinking of that shaft.

Mr. MICHELL said that Long Rake would presently be a very large mine. As to the quality of the ore returned, that was best seen by the price it fetched—14*l.* and 13*l.* per ton. They were leaving ore in reserve every month, as the report showed.

The report and accounts were received and adopted.

The CHAIRMAN said that after the extra expenditure for buildings, &c., had been paid the monthly cost would not exceed 300*l.*, so that 25 tons per month would pay the costs.

A call of 30s. per share was made. The committee of management were re-elected, when a vote of thanks to the Chairman was passed, which terminated the proceedings.

HOLMBUSH MINING COMPANY.

A general meeting of proprietors was held at the company's offices, Broad-street-buildings,—Mr. J. PROCTER in the chair.

Mr. DUNSFORD (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed.

A statement of accounts for four months, ending with costs for January, showed a debit balance of 1077*l.* 7s. 9d. The liabilities exceeded the assets by 244*l.* 10s.

The report of the agents stated that they considered the mine had had a fair and effectual trial in the bottom level, and they could not recommend any further outlay being made there; but as the chances were great in the shallow levels, they advised, after taking out all the ore on tribute that would pay, to let in the water to (say) the 80 fathom level, which could be kept by one engine, and reduce the cost considerably; then should they make the slightest discovery, they would soon be in a paying position, as it is a well-known fact that the profit in this mine has been made from shallow levels.

Mr. HARRISON enquired in what part of the mine the silver was discovered?

Capt. F. PRYOR replied it was discovered in the cross-course. A little was being done upon it at present. They would take ore from the bottom of the mine as long as it would pay to take away upon tribute. By carrying out the plan recommended in the report, the monthly cost would be reduced from 1600*l.* to 400*l.* or 500*l.*

Mr. MOCATTA enquired if any workings were being carried on east of the shaft?

Capt. F. PRYOR said that they were working the 20, 30, and 40 fm. levels, in which there was a very good lode. A rise was put up from the 40 to the 30, and so made a 30 fathom level, and it was producing fine stones of ore.

A SHAREHOLDER said the reports lately had referred to tin having been found in the deeper levels?—Capt. F. PRYOR said that tin had been found in the bottom levels, and that had it been in the shallow levels, they would have been able to prosecute it. There was a part of Holmbush Mine to the north, which was abandoned some 50 years since; in the burrows about that part some very large stones of tin had been found.

Mr. R. HALLETT, in answer to a question, stated that those parties to whom the company granted a portion of the sett some time since had expressed a desire for an extension of the grant; but, seeing the little that had been done with the ground already granted, the company did not feel inclined to grant those parties any more.

Mr. HARRISON supposed the lead lode was altogether unproductive?

Capt. F. PRYOR said there was still a little lead in the lode, but it appeared that the shallow levels, both in lead and copper, had been those that had produced profits. The fact was that Holmbush, in depth, was too rich to be condemned, but not rich enough to pay for working. He was, of course, only referring to the bottom levels. He considered that in depth the mine had had a fair and honest trial, and the adventurers had done all in that direction that could be expected from them.

Mr. HARRISON understood they were driving on the lead lode, to cut the Holmbush lode in the 90. He would like to know the character of the lode in that level?

Capt. F. PRYOR replied that there was a very good lode in the 90.

Capt. R. PRYOR, in answer to a question, stated that the sample of silver found in the cross-course in the 160 gave a produce of 220 ozs. to the ton. Search would be made to see if any more silver could be found.

Upon the proposition of the CHAIRMAN, seconded by Mr. JAMES, the report and accounts were received and adopted.

Mr. MOCATTA wished to know if, during the next two or three months, there would be any decrease in the cost?—Mr. F. PRYOR did not anticipate the cost would be so much, while quite as much ore would be raised. The next sampling, he estimated, would be about 200 tons. Their samplings had been kept up pretty regularly, but, unfortunately, it was beyond their power to keep up the standard for copper.

The SECRETARY said the fall in the price of copper had reduced the amount realised upon their returns just about the difference shown in the accounts as compared with the amount at the last meeting; therefore, had the standard kept up the present financial position of the company would be about the same as it was at the last meeting. Although the ore from the upper levels would not be so rich as that from the deep levels, yet it would produce greater profits, because it could be returned at a much less cost. In addition to that, other expenses would be cut off, inasmuch as there would be the cost of but one engine and of one shaft.

Mr. MOCATTA enquired what call would be required to meet the loss sustained?

The CHAIRMAN said the matter had been thought over, and the committee were of opinion that 5*s.* per share would produce sufficient to meet present requirements.

The SECRETARY said that, assuming the produce of the sale were nearly the same as the last, a call of 5*s.* per share would realise about the difference.

A call of 5*s.* per share was made upon the new shares, payable on or before May 30.

A vote of thanks to the Chairman terminated the proceedings.

CHESTERFIELD AND MIDLAND SILKSTONE COLLIERY COMPANY.

The first annual meeting of shareholders was held at the offices of the company, Copthall-court, on Tuesday,

Mr. BROWNRIGG in the chair.

It was some time since stated in the reports of the two engineers of the company, Messrs. Brown and Jeffcock, and of the manager at the works, Mr. George Senior, that, with the temporary pumping-engine then erected, the Silkstone coal at the Chesterfield would be reached in three months, provided a large quantity of water was not met with. The board regret having to inform you that water in larger quantities than was expected was met with, and, after ineffectual attempts to keep it under with the small pumps then at work, the board, acting under the advice of the engineers and the manager, abandoned the sinking until such time as the drawing-engine, which was much more powerful, could be erected. This, unfortunately, has caused great delay, and, as a consequence, a very considerably increased expense; the board need not remind you that time is money where increasing rents and current expenses are accumulating.

The winding-engines are, however, now completed, and in a week from this time will be at work. The sinking will be immediately resumed, and, as the pumps will be sufficiently powerful to drain off all the water, there can no longer be a doubt, from the report of your engineers, but that the coal will be reached by the month of August.

The large engine-house has been finished, and upon it a large water-tank has been erected, capable of containing 300,000 gallons of water, for washing the coal preparatory to coking. The workshops have been completed. The machinery for making our own bricks and mortar is now in operation, and will effect a considerable saving in our future expenditure. All the works connected with this colliery are of a most substantial character, and inferior to none in the district.

NESFIELD COLLIERY.—Owing to the very unscientific manner in which the underground works at this colliery had been conducted previous to our taking possession, and also to some disturbance in the bed at the point where operations were begun, the expenditure at the Nesfield Colliery has considerably exceeded the calculations and estimates given by the engineers and manager. It having required a longer time to develope the colliery, the yield of coal has, consequently, up to this time, not been so great as was anticipated, but the necessary drift, with the other works, are progressing fast to completion. Coal, of excellent quality, has been reached, and very shortly a large quantity of good coal will be raised, and sent into the market. Your board has also great pleasure in informing you that the slack from the Nesfield Colliery cokes admirably, and, therefore, it is certain that a large revenue will be derived from this source. The colliery will be shortly not only paying its own expenses, but a portion of the working expenses of the Chesterfield also. The various buildings have been completely re-arranged and put in order; cottages for workmen have been prepared; new pumping-gear has been placed at the pit, and the railways laid down between the two collieries.

COKE OVENS.—The great profit to be derived from coking the slack, or small coal, has been kept steadily in view. Contracts have been entered into for the erection of twelve coke ovens, and, as soon as these have been tested, a further contract will be made for the erection of others.

Mr. T. E. Wales has been appointed general manager. This gentleman possesses a thorough knowledge of mining in all its details, and of all the best modern methods for making coke, and he has had instructions to push all the works with the utmost vigour.

After a lengthened discussion, the reports and accounts were received and adopted. The retiring directors were re-elected.

The future financial position of the company was discussed, and it was finally arranged to leave it to the directors to decide upon what steps should be taken.

A vote of thanks to the Chairman terminated the proceedings.

At the last sitting of the Academy of Sciences, M. Damour described certain differences which existed between green and white jade, a well known mineral which is brought over from Asia, under the form of vases, bracelets, hilts of daggers, &c., and which, according to our author, is a kind of tremolite. These two species of jade differ considerably from each other; the density of the white species being only 2·97, that of the green sort 3·34; the latter is rather harder, a little more translucent, and of a slighly crystalline structure; its fracture is splintery, finely lamellary, and at times somewhat fibrous. Under the action of the blow-pipe it melts into a transparent glass, while white jade, on the contrary, is transformed into a dull white enamel. Both kinds resists the action of the nitric, hydrochloric, and sulphuric acids. A chemical analysis further shows that white jade is essentially formed of silica, lime, and magnesia, and, therefore, belongs to the family of the Amphiboles, while green jade belongs to that of the Wernerites, and the species called Dipyre.

An invention in photography has just been made in Berlin. Thanks to the experiments of Herr Heckert, it will be possible henceforth, it is said, to burn photograph into glass. Herr Toelken, the secretary of the Royal Academy of Arts, speaks in high terms of the delicacy of the shades and the wonderful effect of light on a drawing of photograph correctness and abundance of detail. The first production of the new art will probably consist in transparent pictures, to be hung up against the window panes.

MINING IN IRELAND—GEOLOGICAL ORDNANCE MAP.

[FROM OUR CORRESPONDENT.]

As promised recently in the Journal, we give the exact copy of the note added by the heads of the department of the Geological Survey of Ireland to the "Explanations" which accompany the Geological Ordnance Map of the county of Cork. In order to make it clearly understood to our readers to what district of the county of Cork these "Explanations," and, therefore, also the notes alluded to refer, we copy here the two first paragraphs of the pamphlet, which constitute the "Explanations." They are as follows:—

Explanations to accompany sheets 200, 203, 204, and 205, and part of sheet 199 of the Map of the Geological Survey of Ireland.

GENERAL DESCRIPTION.

The district included in the sheets of the map belongs wholly to the county of Cork. Cape Clear and Mizen Head,* the two southern promontories of Ireland, are comprised in it.

In sheet 199 the places of most note are the village of Schull and Ballydehob; in sheet 200 the towns of Skibbereen and Rosscarberry,† with the villages of Dromdaleague, Castletownsend, Union Hall, Leap, and Glandore; while in sheet 204 are the town and harbour of Crookhaven, and the village and harbour of Baltimore.

* "Mizen Head is the ancient *Notium Promontorium* of Ptolemy."—*Smith's History of Cork.*

† Smith, in his "History of Cork," vol. i., p. 265, says that Rosscarberry was "formerly called *Ross Ailithri—i.e.*, the field of pilgrimage. This anciently was the seat of a famous university, and at it was educated the Irish professor who first opened the public schools at Oxford, before which time the Saxons flocked to Ireland as to a great mart of learning."

The pamphlet, on the whole, is replete with valuable scientific information on the geological features of the country included in the sheets of the Geological Ordnance Map it specially treats upon. General remarks are prepared by the local director, Mr. J. Beete Jukes, M.A., F.R.S., &c., jointly with Mr. G. Henry Kinahan, who held at the time the office of a senior geologist to the Survey Department. As to the details in the explanations, Mr. Jukes explains that—

"The district was surveyed by Mr. W. S. Willson, now of the Geological Survey of India; by Mr. A. Wyley, late geological surveyor of the Cape Colony, and by Mr. du Noyer. Mr. G. Henry Kinahan has since gone over the ground, and compiled the following details from their notes on the 6-inch maps, *with the addition of his own observations.*"

These last few words are italicised by ourselves, in order to call attention that in point of fact it was Mr. Kinahan who had the final arrangement of the pamphlet, or explanations. This gentleman, it must be admitted, has nearly throughout taken a very favourable view of the character of the mines of the county of Cork, and in doing so has in many cases adopted the opinions of the local mining captains. If to this circumstance is to be ascribed, as is argued by many, the great energy with which the "local director" cautions the public against being led astray by Mr. Kinahan's certainly favourable comments on the mineral indications in the county of Cork, it is but fair to make some allowance for the excess which the author of the note, in part quoted by our correspondent in the county of Cork, has committed in his zeal. The results from several of the mines in the county will now, we hope, effectually extricate mining enterprise in the county of Cork, and in Ireland in general, from the doubt of success which has been created in the minds of capitalists by such damaging notes as the one which stands thus at the end of the explanations to the Geological Ordnance sheets of the county of Cork.

NOTE ON THE MINES OF THE SOUTH-WEST OF CORK, BY MR. JUKES.

Being unwilling that the imagination of the reader should be led astray by the array of mines and lodes detailed in the preceding pages by Mr. Kinahan, I think it right to add a few remarks upon them.

The result of our examination of the country during the years 1853 to 1856 showed us that at about the period of the deposition of the beds of grit and slate which lie near the boundary of the two sub-divisions of the Old Red Sandstone, that is about the base of the part called the Upper Old Red or Yellow Sandstone, or a little below it, some rocks, containing a quantity of copper ore, were somewhere being acted on by water, and their debris carried to the place where those grits and slates were being deposited. It was probably the same mass of rocks that yielded from time to time the materials of those grits and slates, and the particles of copper ore which were deposited in them. However that may be, there was a great *mechanical deposition* of copper ore in the beds formed at the bottom of the water, so that all the grits and slates were here and there impregnated with copper ore over all the district stretching from Waterford through Cork into Kerry. This copper deposit was, like most materials deposited from water, not a continuous sheet, but occurred in patches in different beds of grit or slate, through a thickness of 300 or 400 feet, over all that area. None of the beds of grit and slate are themselves continuous throughout the formation, which is made up of local cakes of sand and mud, deposited side by side over the area. The copper ore was distributed here and there among these beds as a copper sand, or copper mud, mixed with the siliceous and argillaceous sands and clays. Eventually these beds were greatly indurated, greatly disturbed, and tilted up into highly inclined, often vertical, or even inverted positions, and bent into numerous (we may almost say innumerable) folds, and large parts of them were from time to time cut off and removed by denudation, so as to produce many successive surfaces upon them, till at last the present surface was arrived at.

The disturbances must have been accompanied by many fractures causing fissures, some of which would remain more or less open below in different parts of their course.

Some action subsequently determined the segregation of some of the copper ore out of the beds into some of these hollow fissures by some process, of the exact nature of which we are ignorant, and thus new "mineral veins," or true "lodes," were formed here and there about the country.

Some of these fissures and cracks contain strings and bunches of exceedingly "rich ore;" but, with the exception of the Allihies (or Berehaven) Mines, none of the lodes (whether true or false) of the S.W. part of the county Cork have yet been proved to have a sufficient quantity of ore in any one locality to make a "rich" mine.

It will be obvious that a large quantity of poor ore, easily accessible, may be more productive of profit than the richest ore, or even actual metal itself, which is disseminated in small quantities, or in situations requiring great trouble and expense for its extraction.

The very fact of the wide diffusion of copper ore in small quantities over so large an area is against, rather than in favour of, the probability of rich mines being found. It shows that the copper ore occurs chiefly as a mechanical deposit derived from the waste and destruction of some original "mineral vein" district, and does not form here an original "mineral vein" district itself.

The fact of small veins and strings of rich ore occurring here and there agrees well with the above hypothesis; but is a fact of great danger to the uninstructed speculator, as being likely to lead him into operations which will not be profitable.

The south-western part of the county of Cork is a district which, perhaps more than any other, requires great caution as well as skill and prudence to mine with profit, and is a most delusive district to the speculator, from its containing so many of these specimens of "rich ore," many of which have not indicated the existence of much more ore than was actually seen in the specimen.—J. B. J.

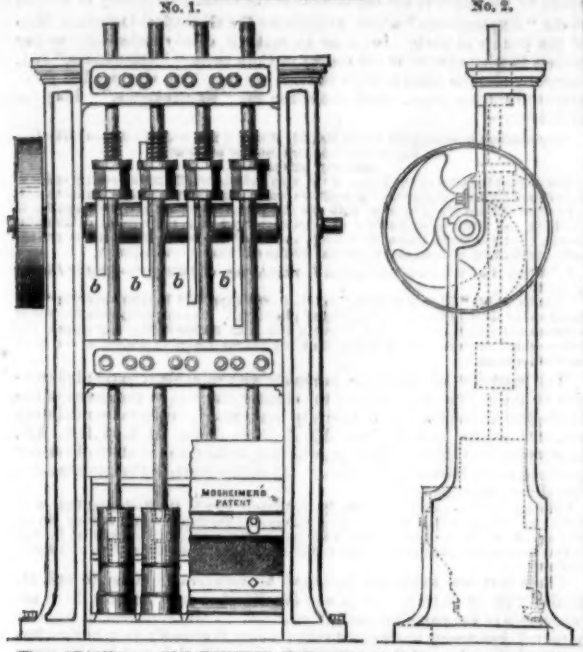
LITERARY NOTICE.

Joseph Anstey; or the Patron and the Protégé: a Story of Chequered Experiences in Life from Youth upwards. By D. S. HENRY. Published by J. Wilson, Great Russell-street, Bloomsbury, London.

It is most certainly not within our province, as a rule, to pass our opinion on works of fiction, but in the present instance we make an exception, finding before us a work possessing many peculiarities to interest alike ourselves and the general public. It is a rare thing for the commercial classes of the community to find their business and domestic portraiture in novels, and still more rare is it, under any circumstances, to find such classes of society faithfully delineated. Among modern writers we reckon Scott for mailed knights and barons bold, and Dickens for genteel and low life comedy. But who has yet given us life-like pictures of the true English gentleman of middle life, and ordinary characters figuring in every-day life on the busy city bourse, in the merchant's office, the trader's shop or store, from man to master, in all their several relations? We know of no instance; and if the novel of Joseph Anstey presents one greater novelty than another it is the skill of the author in making a telling story out of materials open to all, yet hitherto made available by no other writer. This story is not a very tangled yarn, being, as its author professes, written much in the manner of an autobiography; consequently, it is progressive from youth upwards, and is less dependent on plot than other narratives of fictitious history. The style is simple, easy, and so natural that its composition appears to be as free as that of a friendly epistle; yet it requires no great penetration to observe that deep thought pervades the whole, and that high moral feeling directs the flow of the narrative, without anywhere running into any species of sermonising. Indeed, of the style it may be said that it has the freedom and fluency of Smollet, the plain direct manner of Swift, with all the ease and pleasantry of Addison. Such a style is in accordance with the period, being at least 50 years ago—for it was the age of queues, guineas, stage-coaches, and reform meetings. The narrative is so exceedingly dramatic that we seem to realise each character the moment he speaks; his words, like a peculiar voice, strike the ear, and indicate the speaker. Joseph is a handsome youth, docile, attentive to business, and without more than mediocre talent: from less to more, however, he progresses like the industrious apprentice, as painted by Hogarth. His patron, Mr. Laurence Forster, is a retired city merchant, active in doing good, and in writing a pamphlet on the currency question. He apprentices Joseph to a London merchant, who sends him to the branch house in Bristol, and ultimately to Liverpool; after which he goes to St. Petersburg, to acquire further commercial knowledge. Joseph is dodged from time to time by Mr. Henry Allbubble, a clever insinuating scholarly man, who seems to have all manner of shreds and patches of information in chemistry, engineering, astronomy, algebra, and metaphysics, calling himself a philomoth, and public lecturer, but he is connected with forgers; he swindles an unlucky Mr. Bolster, and seems to have persuaded a Sir Simon Addletop into ruinous mining speculations, of whom a direful picture is given during his incarceration in the old Fleet Prison, while he himself dies miserably in a roadside tavern. The business establishments of Messrs. Flint and Co. in London, and Messrs. Goldbeater and Co. in Bristol, with the old miserly banker, Mr. Timberly, and the visit to Liverpool, are graphically described. An affecting incident is narrated as occurring in Van Dieman's Land, which leads eventually to the discovery of Joseph's parentage, together with the recovery of a long-lost sister. But the interest in the story of Joseph Anstey does not so much consist in parts as in the whole, and in the skill with which each part is enhanced by preceding narratives, whether pathetic, humourous, narrative, or anecdotal. He must be a very dull man who, even taking only the title, the motto, and the opening chapters of this chequered story, cannot perceive its aim and object. Its moral although remote is yet sufficiently evident to all who reflect—a style of composition which is far from being of easy accomplishment. Each fresh experience teaches Joseph, and through him the reader, some new lesson of what to avoid, or what to admire and imitate. By no extraordinary exertions, but principally through obedience to his superiors, submitting to the advice of sincere friends, and himself never engaging rashly in any new adventure, Joseph succeeds where others among his acquaintance fail: making shipwreck of their brightest prospects of worldly success. The story concludes with his happy marriage, and sketches the fortunate circumstances of his career to the period of his being the father of a promising young family.

MOSHEIMER'S PATENT STAMPS.

MANUFACTURED BY DUNN AND CO., SALFORD, NEAR MANCHESTER.



These STAMPS are CONSTRUCTED ENTIRELY of IRON, and are ADAPTED for CRUSHING EVERY DESCRIPTION of ORE, MORE ESPECIALLY for REDUCING GOLD ORES, as in consequence of the mortars (coffers) being solid NONE of the PRECIOUS METAL can be LOST. They may be erected on either a stone or wood foundation, are more durable, the wear and tear being much less, and CRUSH TWENTY-FIVE PER CENT. MORE than the ORDINARY STAMPS. Several sets may be seen in the gold district, near Dolgelly.—For particulars, apply to Mr. Jos. MOSHEIMER, Dolgelly, North Wales.

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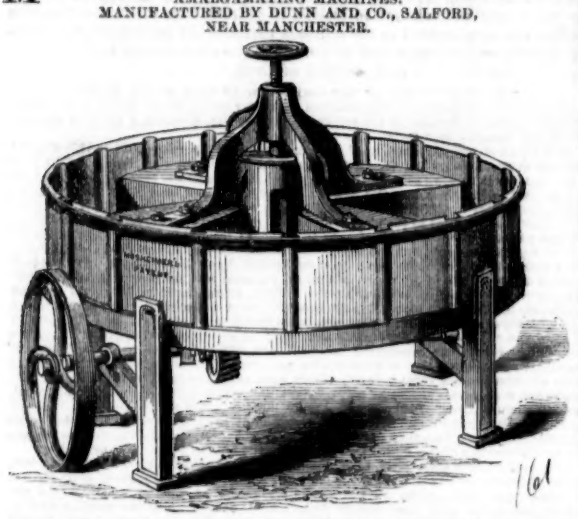

This AMALGAMATOR is the MOST ECONOMICAL and PERFECT MACHINE in use, and being SIMPLE in CONSTRUCTION, and REQUIRING NO FOUNDATION, it may be put up in a few hours. More gold can be extracted by this amalgamator than by any other, this having been sufficiently proved by the gold extracted from the tailings worked in this machine from the Welsh gold mines. The process is both mechanical and chemical, and the amount of ore worked by each machine is about 1 ton per day.—For particulars, apply to Mr. Jos. MOSHEIMER, Dolgelly, North Wales.

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Mr. CREASE will undertake contracts for sinking shafts, driving levels, &c., at an enormous reduction of time and great saving in cost.

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APPARATUS FOR RAISING WATER ECONOMICALLY, ESPECIALLY APPLICABLE TO ALL KINDS OF MINES, DRAINAGE, WELLS, MARINE, FIRE, &c.

J. U. BASTIER begs to call the attention of proprietors of mines, engineers, architects armers, and the public in general, to his new pump, the cheapest and most efficient ever introduced to public notice. The principle of this new pump is simple and effective, and its action is so arranged that accidental breakage is impossible. It occupies less space than any other kind of pump in use, does not interfere with the working of the shafts, and unites lightness with a degree of durability almost imperishable. By means of this hydraulic machine water can be raised economically from wells of any depth; it can be worked either by steam-engine or any other motive power, by quick or slow motion. The following statement presents some of the results obtained by this hydraulic machine, as daily demonstrated by use:—

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	Dia.	Height.			Dia.	Height.	
500 gallons	48	84	£10 10 0	75 gallons	27 × 42		£3 15 0
400 „	43	83	9 9 0	50 „	24 × 36		2 15 0
300 „	37	84	7 7 0	40 „	21 × 38		2 5 0
252 „	35	79	6 10 0	30 „	21 × 30		1 15 0
200 „	33	72	6 0 0	25 „	19 × 30		1 5 0
150 „	30	66	5 5 0	20 „	19 × 26		1 2 0
100 „	27	55	4 10 0	10 „	15 × 21		0 15 0

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PRICES PER FOOT RUN.

Inches wide.	1	1½	2	2½	3	3½	4	4½	5	5½	6	7	8	9	10	11	12
No. 1 substance.	0 3	0 4½	0 6	0 7½	0 9	0 10½	1 0	1 1½	1 3	—	—	—	—	—	—	—	—
No. 2 substance.	—	—	—	0 11¼	1 1½	1 4	1 6	1 7½	1 9	1 10½	2 0	2 3	2 6	2 9	3 0	—	—
No. 3 substance.	—	—	—	—	1 6	1 7½	1 9	1 10½	2 0	2 3	2 6	3 0	3 6	4 0	4 6	5 0	5 6

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No. 1 substance	5 in. wide, broke at the strain of	6,272 lbs., or, for every inch of width,	1254 lbs.
No. 2	5 in. wide, „	7,448 lbs., or, for every inch of width,	1489 lbs.
No. 3	10 in. wide, „	16,663 lbs., or, for every inch of width,	1666½ lbs.
A stout leather band	4 in. wide, „	2,100 lbs., or, for every inch of width,	525 lbs.

July 9, 1862. (Signed) WM. MITCHESON.

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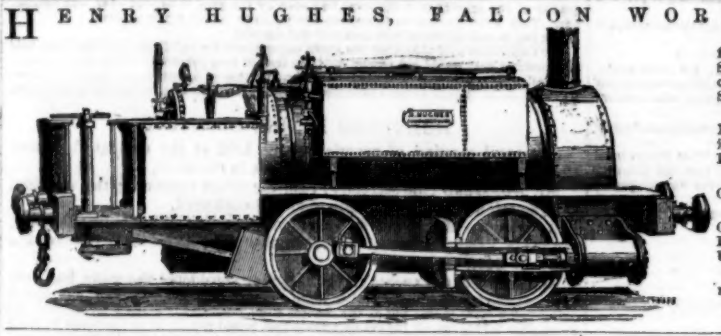

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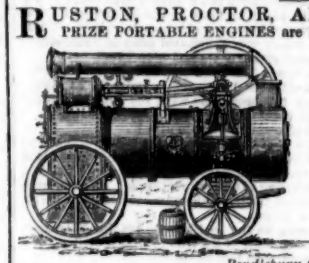

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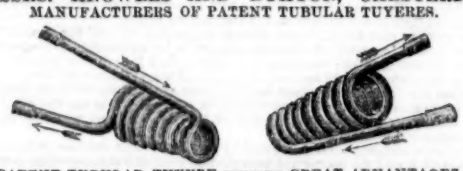

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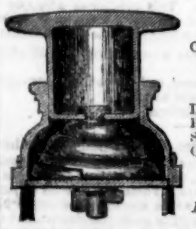

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Prize Medal—International Exhibition, 1862.

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